

Claims

- [1] A gestational wheel calculator comprising a plurality of plates joined together at and rotating about a common axis, to bring written notations on the plates into meaningful juxtaposition to provide gestational information, said written notations including:
- a calendar plate rotating on the axis comprising a calendar, said calendar comprising:
 - at least nine and not greater than twelve segments, each segment corresponding to a respective calendar month, each segment comprising at least one and not greater than thirty-one marks corresponding to particular calendar days for its respective month, each mark spaced from adjacent marks by a predetermined angle with respect to the axis, for each segment a mark defining a first mark and other marks, each mark having an appearance, said appearance of the first mark being noticeably different from the appearance of the other marks of the particular segment;
 - a second plate rotating on the axis comprising:
 - marks spaced apart by the predetermined angle and labeled with numbers in a range of twenty to forty-five
 - an intercourse timing calculator comprising:
 - a sperm life plate rotating on the axis comprising:
 - a marker for marking a corresponding date on the calendar plate, said date representing a date upon which intercourse occurred, and
 - a sperm survival probability curve
 - an egg life plate rotating on the axis comprising:
 - a marker for marking a corresponding date on the calendar plate, said date representing a date upon which ovulation occurred, and
 - an egg survival probability curve
 - wherein one of the sperm life plate and the egg life plate is transparent and is superposed upon the other and wherein the sperm life plate and the egg life plate rotate relative to each other about the axis;
 - a gestational age, ultrasound landmark probability, and ultrasound medical pregnancy test measurement scale plate, said plate rotating on the axis, said plate comprising:
 - day markers, each day marker spaced from adjacent day markers by a predetermined angle with respect to the axis, wherein each day marker indicates gestational age in days,
 - weekly sub-markers, each weekly sub-marker spaced from adjacent weekly sub-

markers by a predetermined angle with respect to the axis, wherein each weekly sub-marker indicates gestational age in weeks, wherein each weekly sub-marker's appearance is noticeably different than that of each day marker's appearance,

gestational ultrasound landmark probability curves, each curve representing a probability for ultrasound visualization of fetal development landmarks, each curve further characterized in that it located at a predetermined angle with respect to the axis

gestational ultrasound medical pregnancy test measurement scales, each scale comprising marks, each mark positioned at a predetermined angle with respect to the axis, each mark further characterized in that the mark corresponds to ultrasound measurements or test results during a pregnancy which are continuous variables dependant on corresponding gestational ages.

- [2] The gestational wheel calculator of Claim 1 further comprising a transparent marker arm plate rotating about the axis.
- [3] The gestational wheel calculator of Claim 1 further comprising a quarter year window located on the gestational age, ultrasound landmark probability, and ultrasound medical pregnancy test measurement scale plate.
- [4] The gestational wheel calculator of Claim 1 further comprising plates on a second back side of said gestational wheel calculator said plates rotating about the axis.
- [5] An intercourse timing calculator comprising:
 - a sperm life plate rotating about an axis comprising:
 - a marker for marking a corresponding date on the calendar plate, said date representing a date upon which intercourse occurred, and
 - a sperm survival probability curve
 - an egg life plate rotating about the axis comprising:
 - a marker for marking a corresponding date on the calendar plate, said date representing a date upon which ovulation occurred, and
 - an egg survival probability curve
 - wherein one of the sperm life plate and the egg life plate is transparent and is superposed upon the other and wherein the sperm life plate and the egg life plate rotate relative to each other about the axis;
- [6] A gestational age, ultrasound landmark probability, and ultrasound medical pregnancy test measurement scale comprising:
 - day markers, each day marker spaced from adjacent day markers by a predetermined angle with respect to the axis, wherein each day marker indicates

gestational age in days,
weekly sub-markers, each weekly sub-marker spaced from adjacent weekly sub-markers by a predetermined angle with respect to the axis, wherein each weekly sub-marker indicates gestational age in weeks, wherein each weekly sub-marker's appearance is noticeably different than that of each day marker's appearance,

gestational ultrasound landmark probability curves, each curve representing a probability for ultrasound visualization of fetal development landmarks, each curve further characterized in that it located at a predetermined angle with respect to the axis

gestational ultrasound medical pregnancy test measurement scales, each scale comprising marks, each mark positioned at a predetermined angle with respect to the axis, each mark further characterized in that the mark corresponds to ultrasound measurements or test results during a pregnancy which are continuous variables dependant on corresponding gestational ages.

[7] A gestational wheel calculator comprising a plurality of plates joined together at and rotating about a common axis, to bring written notations on the plates into meaningful juxtaposition to provide gestational information, said written notations including:

a calendar plate rotating on an axis comprising a calendar, said calendar comprising:

at least nine and not greater than twelve segments, each segment corresponding to a respective calendar month, each segment comprising at least one and not greater than thirty-one marks corresponding to particular calendar days for its respective month, each mark spaced from adjacent marks by a predetermined angle with respect to the axis, for each segment a mark defining a first mark and other marks, each mark having an appearance, said appearance of the first mark being noticeably different from the appearance of the other marks of the particular segment;

a second plate rotating on the axis comprising:

marks spaced apart by the predetermined angle and labeled with numbers in a range of twenty to forty-five

an intercourse timing calculator comprising:

a sperm life plate rotating on the axis comprising:

a marker for marking a corresponding date on the calendar plate, said date representing a date upon which intercourse occurred, and

a sperm survival probability curve

an egg life plate rotating on the axis comprising:

a marker for marking a corresponding date on the calendar plate, said date representing a date upon which ovulation occurred, and
an egg survival probability curve
wherein one of the sperm life plate and the egg life plate is transparent and is superposed upon the other and wherein the sperm life plate and the egg life plate rotate relative to each other about the axis.

- [8] A gestational wheel calculator comprising a plurality of plates joined together at and rotating about a common axis, to bring written notations on the plates into meaningful juxtaposition to provide gestational information, said written notations including:
- a calendar plate rotating on an axis comprising a calendar, said calendar comprising:
 - at least nine and not greater than twelve segments, each segment corresponding to a respective calendar month, each segment comprising at least one and not greater than thirty-one marks corresponding to particular calendar days for its respective month, each mark spaced from adjacent marks by a predetermined angle with respect to the axis, for each segment a mark defining a first mark and other marks, each mark having an appearance, said appearance of the first mark being noticeably different from the appearance of the other marks of the particular segment;
 - a second plate rotating on the axis comprising:
 - marks spaced apart by the predetermined angle and labeled with numbers in a range of twenty to forty-five;
 - a gestational age, ultrasound landmark probability, and ultrasound medical pregnancy test measurement scale plate, said plate rotating on the axis, said plate comprising:
 - day markers, each day marker spaced from adjacent day markers by a predetermined angle with respect to the axis, wherein each day marker indicates gestational age in days,
 - weekly sub-markers, each weekly sub-marker spaced from adjacent weekly sub-markers by a predetermined angle with respect to the axis, wherein each weekly sub-marker indicates gestational age in weeks, wherein each weekly sub-marker's appearance is noticeably different than that of each day marker's appearance,
 - gestational ultrasound landmark probability curves, each curve representing a probability for ultrasound visualization of fetal development landmarks, each curve further characterized in that it located at a predetermined angle with

respect to the axis

gestational ultrasound medical pregnancy test measurement scales, each scale comprising marks, each mark positioned at a predetermined angle with respect to the axis, each mark further characterized in that the mark corresponds to ultrasound measurements or test results during a pregnancy which are continuous variables dependant on corresponding gestational ages.

[9] A gestational wheel calculator comprising a plurality of plates joined together at and rotating about a common axis, to bring written notations on the plates into meaningful juxtaposition to provide gestational information, said written notations including:

a calendar plate rotating on an axis comprising a calendar, said calendar comprising:

at least nine and not greater than twelve segments, each segment corresponding to a respective calendar month, each segment comprising at least one and not greater than thirty-one marks corresponding to particular calendar days for its respective month, each mark spaced from adjacent marks by a predetermined angle with respect to the axis, for each segment a mark defining a first mark and other marks, each mark having an appearance, said appearance of the first mark being noticeably different from the appearance of the other marks of the particular segment;

a second plate rotating on the axis comprising:

marks spaced apart by the predetermined angle and labeled with numbers in a range of twenty to forty-five

an intercourse timing calculator comprising:

a sperm life plate rotating on the axis comprising:

a marker for marking a corresponding date on the calendar plate, said date representing a date upon which intercourse occurred, and

a sperm survival probability curve

an egg life plate rotating on the axis comprising:

a marker for marking a corresponding date on the calendar plate, said date representing a date upon which ovulation occurred, and

an egg survival probability curve

wherein one of the sperm life plate and the egg life plate is transparent and is superposed

upon the other and wherein the sperm life plate and the egg life plate rotate relative to each other about the axis;

a gestational age and ultrasound landmark probability scale plate, said plate rotating on the axis, said plate comprising:

day markers, each day marker spaced from adjacent day markers by a predetermined angle with respect to the axis, wherein each day marker indicates gestational age in days,

weekly sub-markers, each weekly sub-marker spaced from adjacent weekly sub-markers by a predetermined angle with respect to the axis, wherein each weekly sub-marker indicates gestational age in weeks, wherein each weekly sub-marker's appearance is noticeably different than that of each day marker's appearance, and

gestational ultrasound landmark probability curves, each curve representing a probability for ultrasound visualization of fetal development landmarks, each curve further characterized in that it located at a predetermined angle with respect to the axis.

[10] A gestational wheel calculator comprising a plurality of plates joined together at and rotating about a common axis, to bring written notations on the plates into meaningful juxtaposition to provide gestational information, said written notations including:

a calendar plate rotating on an axis comprising a calendar, said calendar comprising:

at least nine and not greater than twelve segments, each segment corresponding to a respective calendar month, each segment comprising at least one and not greater than thirty-one marks corresponding to particular calendar days for its respective month, each mark spaced from adjacent marks by a predetermined angle with respect to the axis, for each segment a mark defining a first mark and other marks, each mark having an appearance, said appearance of the first mark being noticeably different from the appearance of the other marks of the particular segment;

a second plate rotating on the axis comprising:

marks spaced apart by the predetermined angle and labeled with numbers in a range of twenty to forty-five

an intercourse timing calculator comprising:

a sperm life plate rotating on the axis comprising:

a marker for marking a corresponding date on the calendar plate, said date representing a date upon which intercourse occurred, and

a sperm survival probability curve

an egg life plate rotating on the axis comprising:

a marker for marking a corresponding date on the calendar plate, said date representing a date upon which ovulation occurred, and

an egg survival probability curve

wherein one of the sperm life plate and the egg life plate is transparent and is superposed

upon the other and wherein the sperm life plate and the egg life plate rotate relative to each other about the axis;

a gestational age, and ultrasound medical pregnancy test measurement scale plate, said plate rotating on the axis, said plate comprising:

day markers, each day marker spaced from adjacent day markers by a predetermined angle with respect to the axis, wherein each day marker indicates gestational age in days,

weekly sub-markers, each weekly sub-marker spaced from adjacent weekly sub-markers by a predetermined angle with respect to the axis, wherein each weekly sub-marker indicates gestational age in weeks, wherein each weekly sub-marker's appearance is noticeably different than that of each day marker's appearance, and

gestational ultrasound medical pregnancy test measurement scales, each scale comprising marks, each mark positioned at a predetermined angle with respect to the axis, each mark further characterized in that the mark corresponds to ultrasound measurements or test results during a pregnancy which are continuous variables dependant on corresponding gestational ages.

- [11] A pre-term delivery risk wheel calculator comprising two plates rotating about a common axis, said plates including:
- a first transparent plate including an indicator superimposed upon a radius of said transparent plate,
 - a second plate, comprising a series of scales, each scale including markers, each marker spaced from adjacent markers by a predetermined angle with respect to the axis, said series of scales including:
 - a first scale wherein the markers represent gestational age,
 - a second scale wherein the markers represent risk of significant handicap upon delivery at a corresponding gestational age, and
 - a third scale wherein the markers represent a percent calculation of likelihood of fetus survival upon delivery at a corresponding gestational age.

- [12] A pre-term delivery risk wheel calculator comprising two plates rotating about a common axis, said plates including:
- a first transparent plate including an indicator superimposed upon a radius of said transparent plate,
 - a second plate, comprising a series of scales, each scale including markers, each marker spaced from adjacent markers by a predetermined angle with respect to the axis, said series of scales including:

- a first scale wherein the markers represent cervix length, and
a second scale wherein the markers represent risk of pre-term labor corresponding to a particular cervix length.
- [13] A likelihood of ongoing pregnancy wheel calculator comprising two plates rotating about a common axis, said plates including:
a first transparent plate including an indicator superimposed upon a radius of said transparent plate,
a second plate, comprising a series of scales, each scale including markers, each marker spaced from adjacent markers by a predetermined angle with respect to the axis, said series of scales including:
a first scale wherein the markers represent the serum β -hCG level at a predetermined gestational age, said β -hCG level ranging from 0 to 1000,
a second scale wherein the markers represent a percent likelihood of ongoing pregnancy for an expecting mother under an age of forty years, and
a third scale wherein the markers represent a percent likelihood of ongoing pregnancy for an expecting mother over an age of forty years.
- [14] A likelihood of fertility wheel calculator comprising two plates rotating about a common axis, said plates including:
a first transparent plate including an indicator superimposed upon a radius of said transparent plate,
a second plate, comprising a series of scales, each scale including markers, each marker spaced from adjacent markers by a predetermined angle with respect to the axis, said series of scales including:
a first scale wherein the markers represent the percent likelihood of IVF pregnancy per cycle,
a second scale wherein the markers represent a percent likelihood of COH-IUI pregnancy per cycle, and
a third scale wherein the markers represent an age of a female patient ranging from 30 to 45 years.
- [15] A genetic risk wheel calculator comprising two plates rotating about a common axis, said plates including:
a first transparent plate including an indicator superimposed upon a radius of said transparent plate,
a second plate, comprising a series of scales, each scale including markers, each marker spaced from adjacent markers by a predetermined angle with respect to the axis, said series of scales including:
a first scale wherein the markers represent a likelihood of Down's syndrome corresponding to a particular age of a mother,

a second scale wherein the markers represent a likelihood of Aneuploid corresponding to a particular age of a mother, and
a third scale wherein the markers represent an age of a mother, said age ranging from 25 to 50 years.

[16]

A wheel comprising:

a first scale marked with evenly spaced dates with a first spacing of a first angular extent, the dates spanning at least nine months;
a second scale in rotatable juxtaposition with the first scale, the second scale marked with landmarks of interest with respect to a human gestation process; the second scale having a region marked with a plurality of second markings spaced with an even spacing matching the first spacing;
the second markings marked for a range of lengths of menstrual cycle;
whereby alignment of one of the second markings, selected for a length of menstrual cycle of a particular patient, with a date on the first scale, permits determination of dates for the landmarks of interest.

[17]

A method for use with a wheel, the wheel comprising a first scale marked with evenly spaced dates with a first spacing of a first angular extent, the dates spanning at least nine months; a second scale in rotatable juxtaposition with the first scale, the second scale marked with landmarks of interest with respect to a human gestation process; the second scale having a region marked with a plurality of second markings spaced with an even spacing matching the first spacing; the second markings marked for a range of lengths of menstrual cycle; the method comprising the steps of:
aligning one of the second markings, selected for a length of menstrual cycle of a particular patient, with a date on the first scale;
the alignment permitting determination of dates for the landmarks of interest.

[18]

A wheel comprising:

a first scale marked with evenly spaced dates with a first spacing of a first angular extent, the dates spanning at least nine months;
a second scale in rotatable juxtaposition with the first scale, the second scale marked with landmarks of interest with respect to a human gestation process;
a third plate atop the second scale and rotatable with respect to the second scale, the third plate transparent in part of its area, the third plate having radial cursor alignable with selected ones of the landmarks of interest and with selected ones of the dates of the first scale;
the third plate having an opaque area defining a first pattern;
the second scale further comprising an opaque area defining a second pattern;
the first pattern and second pattern disposed, when the third plate is in a

particular position relative to the second scale, to reveal as recognizable a hitherto unrecongnizable message.

[19] A method for use with a wheel, the wheel comprising a first scale marked with evenly spaced dates with a first spacing of a first angular extent, the dates spanning at least nine months; a second scale in rotatable juxtaposition with the first scale, the second scale marked with landmarks of interest with respect to a human gestation process; a third plate atop the second scale and rotatable with respect to the second scale, the third plate transparent in part of its area, the third plate having radial cursor alignable with selected ones of the landmarks of interest and with selected ones of the dates of the first scale; the third plate having an opaque area defining a first pattern; the second scale further comprising an opaque area defining a second pattern; the method comprising the step of:

rotating the third plate into a particular position relative to the second scale, to reveal as recognizable a hitherto unrecognized message.

[20] A wheel comprising:
a first plate bearing a first circular scale, the first scale bearing markings indicative of one of a height or a weight of a patient, the markings disposed in logarithmic spacing;
a second plate in rotatable relation to the first plate, the second plate bearing a second circular scale, the second scale bearing markings indicative of another of the height or the weight of the patient, the markings disposed in logarithmic spacing;
the second plate further comprising a window and marker;
the first plate further comprising a third scale bearing markings indicative of body mass index, the markings disposed in logarithmic spacing;
whereby alignment of a marking on the first scale and a marking on the second scale achieves a juxtaposition of the marker with a marking of the third scale.

[21] A method for use with a wheel, the wheel comprising a first plate bearing a first circular scale, the first scale bearing markings indicative of one of a height or a weight of a patient, the markings disposed in logarithmic spacing; a second plate in rotatable relation to the first plate, the second plate bearing a second circular scale, the second scale bearing markings indicative of another of the height or the weight of the patient, the markings disposed in logarithmic spacing; the second plate further comprising a window and marker; the first plate further comprising a third scale bearing markings indicative of body mass index; the method comprising:
aligning a marking on the first scale and a marking on the second scale, thereby

achieving a juxtaposition of the marker with a marking of the third scale.

[22]

A wheel comprising:

a first plate bearing a first circular scale, the first scale bearing first markings indicative of one of a biparietal diameter or an abdominal circumference of a fetus, the markings disposed in logarithmic spacing;

a second plate in rotatable relation to the first plate, the second plate bearing a second circular scale, the second scale bearing second markings indicative of another of the biparietal diameter or the abdominal circumference of the fetus, the markings disposed in logarithmic spacing;

the second plate further comprising a window and scale extending radially, the scale bearing third markings indicative of a duration of gestation of the fetus;

the first plate further comprising a region bearing traces indicative of percentile distribution at the scale of various durations of gestation of the fetus;

whereby alignment of a marking on the first scale and a marking on the second scale achieves a juxtaposition of the third scale with the traces of the region.

[23]

The wheel of claim 22 wherein:

the first plate further comprises a fourth scale bearing fourth markings indicative of estimated fetal weight of the fetus, the fourth markings in logarithmic spacing;

whereby the alignment of the marking on the first scale and the marking on the second scale further achieves a juxtaposition of the marker with the markings of the fourth scale.

[24]

A wheel comprising:

a first plate bearing a first circular scale, the first scale bearing first markings indicative of one of a biparietal diameter or an abdominal circumference of a fetus, the markings disposed in logarithmic spacing;

a second plate in rotatable relation to the first plate, the second plate bearing a second circular scale, the second scale bearing second markings indicative of another of the biparietal diameter or the abdominal circumference of the fetus, the second markings disposed in logarithmic spacing;

the second plate further comprising a window and a marker;

the first plate further comprising a third scale bearing third markings indicative of estimated fetal weight of the fetus, the third markings in logarithmic spacing;

whereby alignment of a marking on the first scale and a marking on the second scale achieves a juxtaposition of the marker with the markings of the third scale.

[25]

The wheel of claim 24 wherein:

the second plate further comprises a window and scale extending radially, the scale bearing fourth markings indicative of a duration of gestation of the fetus;

the first plate further comprising a region bearing traces indicative of percentile

distribution at the scale of various durations of gestation of the fetus; whereby alignment of the marking on the first scale and the marking on the second scale achieves a juxtaposition of the fourth scale with the traces of the region.

[26] A method for use with a wheel, the wheel comprising: a first plate bearing a first circular scale, the first scale bearing first markings indicative of one of a biparietal diameter or an abdominal circumference of a fetus, the markings disposed in logarithmic spacing; a second plate in rotatable relation to the first plate, the second plate bearing a second circular scale, the second scale bearing second markings indicative of another of the biparietal diameter or the abdominal circumference of the fetus, the markings disposed in logarithmic spacing; the second plate further comprising a window and scale extending radially, the scale bearing third markings indicative of a duration of gestation of the fetus; the first plate further comprising a region bearing traces indicative of percentile distribution at the scale of various durations of gestation of the fetus; the method comprising:

aligning a marking on the first scale and a marking on the second scale to achieve a juxtaposition of the third scale with the traces of the region.

[27] The method of claim 26 wherein: the first plate further comprises a fourth scale bearing fourth markings indicative of estimated fetal weight of the fetus, the fourth markings in logarithmic spacing; whereby the step of aligning of the marking on the first scale and the marking on the second scale further achieves a juxtaposition of the marker with the markings of the fourth scale.

[28] A method for use with a wheel, the wheel comprising: a first plate bearing a first circular scale, the first scale bearing first markings indicative of one of a biparietal diameter or an abdominal circumference of a fetus, the markings disposed in logarithmic spacing; a second plate in rotatable relation to the first plate, the second plate bearing a second circular scale, the second scale bearing second markings indicative of another of the biparietal diameter or the abdominal circumference of the fetus, the second markings disposed in logarithmic spacing; the second plate further comprising a window and a marker; the first plate further comprising a third scale bearing third markings indicative of estimated fetal weight of the fetus, the third markings in logarithmic spacing; the method comprising:

aligning a marking on the first scale and a marking on the second scale, thereby achieving a juxtaposition of the marker with the markings of the third scale.

[29] The method of claim 28 wherein: the second plate further comprises a window

and scale extending radially, the scale bearing fourth markings indicative of a duration of gestation of the fetus; and the first plate further comprising a region bearing traces indicative of percentile distribution at the scale of various durations of gestation of the fetus;
whereby the step of alignment of the marking on the first scale and the marking on the second scale achieves a juxtaposition of the fourth scale with the traces of the region.

[30]

A wheel comprising:

a first plate bearing a first circular scale, the first scale bearing first markings indicative of a level of β -hCG;

a second plate in rotatable relation to the first plate, the second plate bearing a cursor, and further comprising a window and a second scale extending radially, the second scale bearing second markings indicative of a gestational age of a fetus;

the first plate further comprising a region bearing traces indicative of percentile distribution at the scale of various gestational ages of the fetus;

whereby alignment of a marking on the first scale and the cursor achieves a juxtaposition of the second scale with the traces of the region.

[31]

A method for use with a wheel, the wheel comprising: a first plate bearing a first circular scale, the first scale bearing first markings indicative of a level of β -hCG; a second plate in rotatable relation to the first plate, the second plate bearing a cursor, and further comprising a window and a second scale extending radially, the second scale bearing second markings indicative of a gestational age of a fetus; the first plate further comprising a region bearing traces indicative of percentile distribution at the scale of various gestational ages of the fetus; the method comprising:

aligning a marking on the first scale and the cursor, thereby achieving a juxtaposition of the second scale with the traces of the region.